

## WORKING PAPER SERIES

### NEW ORLEANS REGIONAL COUNCIL FOR BUSINESS ECONOMICS

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#### Working Paper #1 (Updated August 2018)

### AN ANALYSIS OF EMPLOYMENT AND WAGES IN SELECT INDUSTRY GROUPS IN THE CITY OF NEW ORLEANS (2004-2017)

#### DATA SOURCE

Quarterly Census of Employment and Wages (QCEW), Bureau of Labor Statistics, U.S. Department of Labor

#### DEFINITIONS

Quarterly Census of Employment and Wages- The primary economic product is the tabulation of employment and wages of establishments which report to the Unemployment Insurance (UI) programs of the United States. Employment covered by these UI programs represents about 99.7% of all wage and salary civilian employment in the country. It counts only filled jobs, whether full or part-time, temporary or permanent, by place of work. Wages include bonuses, stock options, severance pay, profit distributions, cash value of meals and lodging, tips and other gratuities, and, in some States, employer contributions to certain deferred compensation plans such as 401(k) plans.

Seven-Digit NAICS-The four-digit value consists of industry groups. Data are by private establishment.

#### PRIVATE INDUSTRIES SELECTED FOR ANALYSIS

- A. Software Publishers (NAICS 5112)
- B. Motion picture and video industries (NAICS 5121)
- C. Specialized Design Services (NAICS 5414)
- D. Computer Systems Design and Related Services (NAICS 5415)
- E. Scientific Research and Development Services (NAICS 5417)
- F. Travel Accommodations (NAICS 7221)
- G. Restaurants (NAICS 7225)
- H. Drinking places, alcoholic beverages (NAICS 7224)

The above industry groups were selected because they represent both industries driving current job growth (Travel Accommodations, Restaurants and Drinking Places) and industries that have become high profile (Software Publisher, Motion Picture and Video Industries, Specialized Design Services, Computer Systems Design and Scientific Research and Development Services) industries that are expected to increase their share of the City of New Orleans economy.

The data series covers the periods 2004, 2015, 2016 and 2017. The year 2004 was selected because it was the last year in which the data series was not affected by Hurricane Katrina.

## INDUSTRY ANALYSIS

**Table 1 below looks at the percentage change in the annual average number of establishments between 2004 and 2017.** As illustrated in the table, Software Publishers and Computer Systems Designs and Related Services (NAICS 5414) Video Industries experienced the greatest percentage increase in establishments within the selected industries. With respect to Software Publishers, the number of establishments began to take off in 2012, doubling until 2014 and increasing by seventeen establishment between 2014 and 2017. Although tiny with respect to employment (annual average of 125 jobs in 2017), it represents, at least into 2017, a new start-up industry in the technology sector cluster. The other establishment growth sectors are: Computer System Design and Related Industries and Motion Pictures and Video Industries. However, seventy-two percent (72%) of the total establishments in 2017 for the selected industries is dominated by Leisure and Hospitality industries (Travel Accommodation, Full-Service Restaurants and Drinking Places.)

**Table 1**

NAICS	Industry Title	Average Annual QCEW Establishments				Percentage Change 2004-2017	Absolute Change 2004-2017
		YEAR					
		2004	2015	2016	2017		
5112	Software Publishers	3	22	27	39	1200%	36
5121	Motion picture and video industries	39	79	94	70	79%	31
5414	Specialized design services	51	52	53	71	39%	20
5415	Computer systems design and related services	163	240	281	347	113%	184
5417	Scientific research and development services	30	37	37	51	70%	21
7211	Traveler accommodation	172	168	174	190	10%	18
7225	Full-service restaurants	822	921	955	1,072	30%	250
7224	Drinking places, alcoholic beverages	210	237	236	251	20%	41
	<b>TOTAL EMPLOYMENT IN SELECTED SECTORS</b>	<b>1,487</b>	1,756	1,857	2,091	41%	604
	<b>TOTAL AVERAGE ANNUAL PARISH EMPLOYMENT</b>	<b>12,496</b>	11,332	11,721	12,636	1%	140

**Note:** NAICS 7225 was NAICS 7721 up until 2009.  
**Source:** Quarterly Census of Employment and Wages

**Table 2 looks at the annual average employment in the identified industries over the period 2004-2017.** The table suggests that strong job growth still eludes these critical sectors in the New Orleans economy. Motion picture production, with its heavy public subsidy, employed only four hundred and forty-five hundred more employees in 2017 as in 2004. Computer systems design and related industries managed to add 972 annual average jobs between 2004 and 2017. The percentage of “high tech” jobs (NAICS 5112, 5121, 5414, 5415, 5417) as a fraction of the total jobs in the selected industries increased from 9.2% (3,421 jobs) in 2004 to 11.7% (4,876 jobs) in 2017. Traveler Accommodations, although doing well from a financial perspective, seems to be doing “more with less.” *The industry employment in 2017 still had had 707 annual average fewer jobs in 2017 than in 2004. The share of total QCEW employment in these selected sectors*

rose from 15% in 2004 to 21.5% in 2017. Leisure and Hospitality jobs as a fraction of the total employment in *selected sectors* fell slightly from 91% in 2004 to 88.3% in 2017.

**Table 2**

NAICS	Industry Title	Average Annual QCEW Employment				Percentage Change 2004-2017	Absolute Change 2004-2017
		YEAR					
		2004	2015	2016	2017		
5112	Software Publishers	8	77	100	125	1463%	117
5121	Motion picture and video industries	1,851	2,156	2,247	2,296	24%	445
5414	Specialized design services	222	226	225	266	20%	44
5415	Computer systems design and related services	1,072	1,879	1,996	2,044	91%	972
5417	Scientific research and development services	268	137	148	145	-46%	-123
7211	Traveler accommodation	12,438	11,188	11,704	11,731	-6%	-707
7225	Full-service restaurants	18,299	20,297	21,233	21,779	19%	3,480
7224	Drinking places, alcoholic beverages	3,028	3,451	3,305	3,274	8%	246
	<b>TOTAL EMPLOYMENT IN SELECTED SECTORS</b>	<b>37,186</b>	<b>39,411</b>	<b>40,958</b>	<b>41,660</b>	<b>12%</b>	<b>4,474</b>
	<b>TOTAL AVERAGE ANNUAL PARISH EMPLOYMENT</b>	<b>247,260</b>	<b>192,240</b>	<b>193,481</b>	<b>193,841</b>	<b>-22%</b>	<b>-53,419</b>

Note: NAICS 7725 was NAICS 7721 up until 2009.

Source: Quarterly Census of Employment and Wages

Table 3 below compares the number of employees per establishment for the select sectors in Orleans, the State of Louisiana and U.S.

**Table 3**

NAICS	Industry Title	Employees per Establishment		
		2017		
		Orleans	Louisiana	U.S.
5112	Software Publishers	3.2	3.9	16.1
5121	Motion picture and video industries	32.8	22.9	16.2
5414	Specialized design services	3.7	2.8	3.9
5415	Computer systems design and related services	5.9	5.2	7.9
5417	Scientific research and development services	2.8	4.1	24.8
7211	Traveler accommodation	61.7	31.9	31.6
7225	Restaurants	20.3	19.6	19.3
7224	Drinking places, alcoholic beverages	13.0	7.6	9.1
	<b>Average</b>	<b>15.3</b>	<b>14.6</b>	<b>14.6</b>

Note: NAICS 7725 was NAICS 7721 up until 2009.

Source: Quarterly Census of Employment and Wages

Table 3 points out the magnifies difference between the average number of employees per establishment between Orleans Parish and U.S. with respect to four of the select sectors: Software Publishers (NAICS

5112), Motion Picture and Video Industries (NAICS 5121), Scientific Research and Development Services (NAICS 5417) and Traveler Accommodations (NAICS 7211). First, it points out that relative to the U.S. **Orleans Parish is a film center**, having twice as many employees per establishment in 2017 than the U.S. average. **The same is true with respect to Travelers Accommodations.** Although risking generalization, it suggests that in 2017 these industries were well established in Orleans Parish. Correspondingly, Software Publishers in Orleans Parish are generally small businesses either in the context market share or development. **Of critical concern is the fact, illustrated in Tables 2, 3 and 4, that the Scientific Research and Development Industry has atrophied in the parish.** With two medical schools located in the parish, it points to the problem of diversify the economy. *The private sector weakness of Scientific Research and Development Services (NAICS 5417) in New Orleans is pointed out by the level of NIH funding for both public and private scientific research establishments.* In Birmingham, academic and non-academic research centers received in 2017 \$257 million in NIH funds. In New Orleans, academic and non-academic research centers received \$104 million in NIH funding in 2017, with 66% going to Tulane University researchers. In Houston, academic and non-academic research centers \$536 million in NIH funding in 2017.

**Table 4 shows average number of employees per establishment over 2004 to 2017 for select years in Orleans Parish.** The usefulness of the statistic only comes from comparing to other regions, states or the United States. With the exception of Software Publishers, every total establishment group in the sector sectors showed a decline in the average number of employees per establishment between the data points 2004 and 2017.

**Table 4**

NAICS	Orleans Parish	Average Number of Employees Per Establishment				Percentage Change 2004-2017	Absolute Change 2004-2017
		YEAR					
	Industry Title	2004	2015	2016	2017		
5112	Software Publishers	2.7	2.9	3.1	3.2	18.5%	0.5
5121	Motion picture and video industries	47.5	22.9	30	32.8	-30.9%	-14.7
5414	Specialized design services	4.4	4.3	3.6	3.7	-15.9%	-0.7
5415	Computer systems design and related services	6.6	6.7	6.2	5.9	-10.6%	-0.7
5417	Scientific research and development services	8.9	3.7	2.8	2.8	-68.5%	-6.1
7211	Traveler accommodation	72.3	64.3	65.8	61.7	-14.7%	-10.6
7225	Full-service restaurants	22.3	21.3	20.8	20.3	-9.0%	-2
7224	Drinking places, alcoholic beverages	14.4	14.6	13.4	13.0	-9.7%	-1.4
	<b>TOTAL AVERAGE EMPLOYEES PER ESTABLISHMENT IN SELECTED SECTORS</b>	22.4	17.6	18.2	17.9	-20.1%	-4.5
	<b>TOTAL PARISHWIDE AVERAGE EMPLOYEES PER ESTABLISHMENT</b>	19.8	16.4	15.9	15.3	-22.7%	-4.5

Note: NAICS 7725 was NAICS 7721 up until 2009.

Source: Quarterly Census of Employment and Wages

One possible reason for the decline is an increase in efficiencies in the sector. Traveler Accommodations appears to be the model for this reason for change. Another possible reason is the decline in the competitive position of the industry group. It is suggested that Scientific Research and Development might fit into that model. The decline in employment in the Motion Picture and Video Industries group might be the result of a combination of factors, one of which could be efficiencies; another of which could be change in the type of films produced in the market. The point being is that each select sector needs to be analyzed distinctly to assess the reasons for change. The details are beyond the scope of this working paper.

**Table 5 identifies average annual pay in the selected establishments and across all establishments in Orleans Parish over the study period.**

**Table 5**

NAICS	Industry Title	Annual Average Salary				Percentage Change 2004-2017 (current \$)	Absolute Change 2004-2017 (current \$)
		YEAR					
		2004	2015	2016	2017		
		CURRENT \$					
5112	Software Publishers	\$56,441	\$81,662	\$80,667	\$73,257	30%	\$16,816
5121	Motion picture and video industries	\$17,490	\$46,965	\$46,881	\$44,964	157%	\$27,474
5414	Specialized design services	\$30,030	\$45,061	\$47,231	\$42,680	42%	\$12,650
5415	Computer systems design and related services	\$62,069	\$76,877	\$79,004	\$83,590	35%	\$21,521
5417	Scientific research and development services	\$46,374	\$64,202	\$61,960	\$60,227	30%	\$13,853
7211	Traveler accommodation	\$21,607	\$34,633	\$34,605	\$35,410	64%	\$13,803
7221	Full-service restaurants	\$14,173	\$21,796	\$22,075	\$22,864	61%	\$8,691
7224	Drinking places, alcoholic beverages	\$15,433	\$20,995	\$21,180	\$22,640	47%	\$7,207
	<b>TOTAL AVERAGE WAGES IN SELECTED SECTORS</b>	<b>\$18,636</b>	<b>\$26,905</b>	<b>\$28,646</b>	<b>\$30,984</b>	<b>66%</b>	<b>\$12,348</b>
	<b>TOTAL ORLEANS AVERAGE SALARY</b>	<b>\$36,877</b>	<b>\$50,157</b>	<b>\$50,150</b>	<b>\$51,018</b>	<b>38%</b>	<b>\$14,141</b>
Note: NAICS 7725 was NAICS 7721 up until 2009.							
<b>Source: Quarterly Census of Employment and Wages; sum average for selected sectors is weighted by employment resulting in weighted average.</b>							

Average pay in Software Publishers peaked in 2015 with the 2017 average declining by 10.3% over 2015. It is hard to interpret the meaning of the decline. Even though the increase in total QCEW jobs in Software Publishers is small at the absolute level, the changing distribution of jobs in that industry might explain the decline. Hopefully, employment in Software Publishers will expand in time and represent “an emerging industry” in the city of New Orleans. At this stage, it remains more or less a “boutique industry.” Average pay earned in the Motion Picture and Video Industries remains unstable going up or down on a yearly basis. This fluctuation occurs because labor force skills vary from motion picture to motion picture.

This implies that the mix of the workforce in motion picture and video industries is increasingly shifting between lower pay skills and between part-time and full-time. This shift affects the “average.” For example, in 2010 average annual pay for this industry was \$58,130 with an employment level of 1,418. In 2011, average annual pay fell to \$55,982, with an average annual employment level measured at 1,347 jobs. The downward trend continued into 2012 and 2013, showing recovery in 2015 and 2016 and a slight decline in 2017. Average QCEW jobs have remained stable between 2015 and 2017. Post-Production industries (NAICS 51219) have not gained a foothold in Orleans Parish. Average annual QCEW employment has ranges from 196 jobs in 2009 to a high of 390 jobs in 2016. 2017 employment was suppressed because of confidentiality issues. Over this period, average annual pay has ranged from a low \$9,559 in 2010 to a high is 2012 of \$53,212. In 2017, QCEW indicated that there were 10 establishments engaged in Orleans Parish in post-production activity. It is clear that post-production employment (which is where you see technology gains) still remains minimal in the film production and video industry in Orleans Parish. Site location still drives the local industry. Post-production activities are done elsewhere. Finally, although tourism related industries (traveler accommodations, full-service restaurants and drinking places) reflected 88% of the total employment in 2017 and in these select sectors, weighted average annual salaries are only about 50% of the city-wide average. Although the Leisure and Hospitality industry is a job creator, average annual salaries reflect an industry dominated by low skill needs.

Table 6 shows the total annual wage bill in current dollars for each of the selected sectors; the summed total of the selected NAICS industries, and the annual average wage costs for all establishments in Orleans Parish over select years between 2004 to 2017.

**Table 6**

		Total Annual Pay			
		YEAR			
NAICS	Industry Title	2004	2015	2016	2017
		CURRENT \$			
5112	Software Publishers	\$451,528	\$3,051,772	\$3,586,992	\$4,530,409
5121	Motion picture and video industries	\$32,373,990	\$110,736,476	\$71,350,237	\$60,148,872
5414	Specialized design services	\$6,666,660	\$7,446,271	\$9,206,243	\$9,375,645
5415	Computer systems design and related services	\$66,537,968	\$99,358,258	\$109,516,962	\$119,792,414
5417	Scientific research and development services	\$12,428,232	\$13,421,470	\$14,175,582	\$14,350,046
7211	Traveler accommodation	\$268,747,866	\$368,339,794	\$358,643,921	\$373,748,886
7225	Full-service restaurants	\$259,351,727	\$345,176,691	\$375,475,341	\$411,103,402
7224	Drinking places, alcoholic beverages	\$46,731,124	\$60,335,606	\$62,191,180	\$67,273,607
	<b>ANNUAL WAGE COSTS IN SELECTED NAICS</b>	<b>\$693,289,095</b>	<b>\$1,004,814,566</b>	<b>\$1,000,559,466</b>	<b>\$1,060,323,281</b>
	<b>ORLEANS ANNUAL AVERAGE WAGE COSTS PER ESTABLISHMENT</b>	<b>\$8,644,752,732</b>	<b>\$8,674,559,662</b>	<b>\$8,799,864,168</b>	<b>\$9,314,789,979</b>

Source: Quarterly Census of Employment and Wages

In 2017, eighty percent (80%) of the total wage bill for the select sectors is concentrated in the three Leisure and Hospitality sectors (NAICS 7211, 7225 and 7224). However, with respect to the total wage and salary cost for the entire parish, Leisure and Hospitality only accounts for nine percent (9%) of the total. Whereas and in 2017, Leisure and Hospitality jobs accounted for about nineteen percent (19%). As shown in table 5, average pay in Leisure and Hospitality is well below the overall parish average.

**Table 7 gives provides insight into level of development of industries over time within the cluster of selected industries. The most significant statistic to review is the change in the average wage cost per establishment.** Data in Table 7 for each select establishment by NAICS industry covers select years over the period 2004 to 2017. The table was developed by dividing the total annual wage cost (Table 6) in each NAICS category by the annual average number of establishments (Table 1) in each year within the category. In 2017, the total weighted annual *average* wage bill for the select seven industries in this study was \$992,439. For all establishments in the City of New Orleans, total annual wage costs per establishment was \$795,266.

**Table 7**

NAICS	Industry Title	Annual Wage Cost Per Establishment				Percentage Change 2004-2017 (current \$)	Absolute Change 2004-2017 (Current \$)
		YEAR					
		2004	2015	2016	2017		
		CURRENT \$					
5112	Software Publishers	\$148,942	\$231,374	\$250,823	\$235,582	58%	\$86,640
5121	Motion picture and video industries	\$830,106	\$1,077,114	\$1,404,645	\$1,474,920	78%	\$644,814
5414	Specialized design services	\$130,916	\$192,218	\$168,932	\$159,898	22%	\$28,982
5415	Computer systems design and related services	\$408,177	\$514,180	\$492,726	\$492,268	21%	\$84,091
5417	Scientific research and development services	\$413,762	\$237,141	\$176,050	\$171,727	-58%	-\$242,035
7211	Traveler accommodation	\$1,562,464	\$2,226,937	\$2,275,462	\$2,186,318	40%	\$623,854
7225	Full-service restaurants	\$330,878	\$463,232	\$459,992	\$464,526	40%	\$133,648
7224	Drinking places, alcoholic beverages	\$222,504	\$307,038	\$284,535	\$295,310	33%	\$72,806
	<b>ANNUAL AVERAGE WAGE COSTS IN SELECTED NAICS</b>	<b>\$760,602</b>	<b>\$1,028,560</b>	<b>\$1,027,239</b>	<b>\$992,439</b>	<b>30%</b>	<b>\$231,837</b>
	<b>ORLEANS ANNUAL AVERAGE WAGE COSTS PER ESTABLISHMENT</b>	<b>\$729,697</b>	<b>\$783,882</b>	<b>\$822,636</b>	<b>\$795,266</b>	<b>9%</b>	<b>\$65,569</b>
<p><b>Note:</b> Total annual average for selected sectors is a weighted average determined by multiplying average employment per establishment by average wage and salary cost per establishment.  Source: Quarterly Census of Employment and Wages</p>							

## LOCATIONAL SPECIALIZATION ANALYSIS

Location quotient analysis is a good preliminary tool to assess *the relative (in this case) competitiveness* of a local industry as measured against the same industry at a larger geographical area. *From an economic development perspective, it provides one preliminary measure of how “successful” a local industry is relative to another area.* In this study, the location quotient technique is used to identify the concentration of the select industries in Orleans Parish relative to the United States and Louisiana. Location quotients are *ratios measuring the concentration* of a specific industry measure (number of establishments, employment, salaries, etc.) relative to the same measure for all industries in that area. This ratio is divided by a similar ratio for the same industries at a larger spatial area (nation, state and region). *The larger (>1.0) the numerical value of the ratio, the greater is the concentration of the specific industry in an area relative to the larger spatial area being measured against. The smaller (<1.0) the ratio, the more likely the industry is locality specific and competes less in the national or larger market area.* In this analysis, the numerator is Orleans Parish. The denominator is the United States or Louisiana. The following is the location quotient formula used to identify the concentration of employment in a specific sector relative to the United States.

Concentration Location Quotients (LQ) is as follows:

Location Quotient=	Orleans Employment in <u>Industry I in Year T</u>	/	National Employment in <u>Industry I in Year T</u>
	Total Orleans Employment in Year T		Total National Employment in Year T

**Table 8 measures the concentration of the average number of establishments in the identified industries for Orleans Parish relative to Louisiana and the United States in the year 2017.** Relative to Louisiana, all of the selected industries in Orleans Parish reflect a higher concentration of establishments. As an example, establishments engaged in motion picture and video production are 3.6 times more concentrated in Orleans Parish than the state as a whole. With a LQ at 1 or near 1 relative to the U.S., the number of establishments in computer systems design (LQ 0.9 with NAICS 5415) and scientific research and development services (LQ 1.1 with a NAICS 5417) suggest that these (establishments) industries in Orleans Parish are not oriented toward the *national market place, and serve more or less the local market. Drinking places and alcoholic beverage establishments (NAICS 7224) stand out as being highly concentrated in Orleans Parish, having a LQ that is 4.4 times more concentrated than the United States.* This confirms that a large fraction of these establishments’ service customers who are not from Orleans Parish, and are heavily oriented toward non-resident visits.



**Table 8**

Concentration (LQ) Index for Annual Average Number of Establishments in Orleans Parish		
	2017	
Relative to:	Louisiana	U.S.
Industry		
Software Publishers	2.6	1.3
Motion picture and video industries	3.0	2.1
Specialized design services	2.7	1.5
Computer systems design and related services	1.9	1.0
Scientific research and development services	2.7	1.5
Traveler accommodation	1.9	2.5
Full-service restaurants	1.4	1.5
Drinking places, alcoholic beverages	2.8	4.6
<b>Source: Quarterly Census of Employment and Wages</b>		

The concentration of full-service restaurants (NAICS 7225) establishments surprisingly is less concentrated in Orleans Parish relative to the United States than might be thought. *This might be a function of a high level of competition, and hence a lower survival rate for restaurant establishments.* The LQ for pre-Katrina (2004) restaurant establishment and the post-Katrina 2017 value is not very different (1.3 vs. 1.5). Finally, as would be expected, traveler accommodations (NAICS 7211) shows 2.5 times or more concentration in Orleans Parish than in the state or nation. New Orleans clearly is a top tourist destination.

**Table 9 identifies the average annual employment concentration in the select industries in Orleans as measured against Louisiana and the United States as a whole.** What does Table 9 tell us? Early on in this paper, it was noted that one economic development strategy for New Orleans was to further develop tourism-related economic activity and to develop industries in science and technology that would balance growth in the parish. *Table 9 tells us that in the areas of motion picture and video industries, traveler accommodation and drinking places, this objective has been met.* However, in the areas of software publishers, specialized design services, computer systems design and scientific research, employment picture is mixed relative to the U.S. Relative to Louisiana, these industries are more concentrated in Orleans Parish than in Louisiana as a whole. Again, looking at the relative concentration to the U.S. employment economy, the picture completely flips when comparing the employment concentration in these select industries relative to the United States. For software publishers, computer systems design and related services and research and development services, the employment concentration index shows that these industries are highly underdeveloped relative to average for their counterparts in the U.S. In the language of the location quotient, these industries are local serving and are more likely to grow based upon the growth through the growth in local industries that require their services. It simply shows that these *industries are not oriented to the national market* and likely depend heavily on the health of local industries for their business.

**Table 9**

Concentration (LQ) Index for Average Annual Employment for Orleans Parish		
	2017	
Relative to:	Louisiana	U.S.
Industry		
Software Publishers	2.1	0.2
Motion picture and video industries	4.1	4.1
Specialized design services	3.4	1.4
Computer systems design and related services	2.0	0.7
Scientific research and development services	1.8	0.2
Traveler accommodation	3.4	4.6
Full-service restaurants	1.4	1.5
Drinking places, alcoholic beverages	4.6	6.3
<b>Source: Quarterly Census of Employment and Wages</b>		

This is reinforced when viewing Table 10 looking at the employment concentration index overtime between 2004 and 2017. **You can see little change in employment concentration relative to the U.S. in the technology and information industries in Orleans Parish.** Overall, employment growth in Orleans Parish is driven by growth in the United States information and technology industries as a whole and not from any locational advantage. The picture looks more favorable when reviewing the employment concentration indexes for motion pictures, traveler accommodation, full service restaurants and drinking places industries. **These industries are clearly driven by locational advantages** and are oriented toward the capturing a national market.

**Table 10**

Concentration (LQ) Index for Average Annual Employment for Orleans Parish		
	2004	2017
Relative to:	United States	
Software Publishers	0.0	0.2
Motion picture and video industries	3.8	4.1
Specialized design services	1.4	1.4
Computer systems design and related services	0.7	0.7
Scientific research and development services	0.4	0.2
Traveler accommodation	5.4	4.6
Full-service restaurants	1.7	1.5
Drinking places, alcoholic beverages	6.2	6.3
<b>TOTAL AVERAGE ANNUAL EMPLOYMENT</b>	<b>247,260</b>	<b>193,842</b>
<b>Source: Quarterly Census of Employment and Wages;</b>		

**Table 11 reports the concentration index for salaries relative to Louisiana and the United States.** Motion picture and video industries have showed high concentration indexes for both number of establishments and employment in previous tables for Orleans Parish. *However, the LQ for average annual pay relative to both Louisiana and the United States suggests that the high-end technical workforce in film production is minimal in this area and insufficient to affect average pay level data.* Further, Table 5 shows that average pay in motion picture and video production has not significantly changed in the recent years. One possible reason is that the job mix increasingly is concentrated on part-time and low skill positions. However, when the salary concentration index (0.7), in comparison to the *national pay level*, for 2017 is measured against the employment concentration index (4.1) against the national level, and the establishment concentration index (2.1), average private sector pay (\$44,964 in 2017) best reflects the lower to mid-range skill profile in comparison to the *national level* (\$65,394 in 2017) within this industry. *Between 2015 and 2017, motion picture and video industries annual average pay declined by 1.5% at the national level. In Orleans Parish, average pay declined by 4.3%.* In short, Table 11 suggests that demand for high end technical skills, which would command higher than national average salaries in motion picture and video production industry in Orleans Parish, has not sufficiently developed as of 2017 to affect the average.

**Table 11**

Concentration (LQ) Index for Average Annual Pay for Orleans Parish		
	2017	
Relative to:	Louisiana	U.S.
Industry		
Software Publishers	0.8	0.5
Motion picture and video industries	1.2	0.7
Specialized design services	1.0	0.7
Computer systems design and related services	1.0	0.8
Scientific research and development services	0.8	0.5
Traveler accommodation	1.2	1.2
Full-service restaurants	1.3	1.3
Drinking places, alcoholic beverages	1.2	1.3
<b>Source: Quarterly Census of Employment and Wages</b>		

*It is slightly worrisome that in none of the indices, (establishments, employment and salary) for software publishers, specialized design services, computer system design and scientific research and development, have reached a level of agglomeration that would suggest an increase in comparative advantage for these select industries relative to the United States as a whole.* In fact, the indices indicate that these sectors are local serving, mainly functioning to support other industries in the region. That would suggest that these industries have not matured to the level which would suggest greater concentration of employment and the associated skill levels that would command higher salaries.

## CONCLUSION

This paper examined a select group of industries that currently drive a large part of the job growth (traveler accommodations, full-service restaurants and drinking places) in Orleans Parish. Also selected were those industries that many suggest will be needed to expand the potential of the New Orleans economy (software publishers, motion picture and video production, specialized design services, computer systems design and scientific research services) in the future.

This analysis clearly shows the importance of tourism related industries in the local economy as shown by Tables 7, 8 and 9. Correspondingly, the down side of this cluster is that salaries generated in these industries are quite low relation to the average for the parish (Table 5), ranging from 44% (Drinking Places, Alcoholic Beverages) of the average to 69% (Traveler Accommodation) of the average in 2017. These fractional values have, on the average, changed little between 2004 and 2017.

The “emerging” industries that are expected to broaden the economic base of the city reflect a mixed bag. Motion picture and video industries have shown success over the study period, particularly in the area of employment generated. However, the data suggests that ***average pay has fallen probably due to the change mix of employment in this industry.*** This is disappointing since the industry in the city of New Orleans is more than 4 times more concentrated in employment (as shown in Table 10) than the nation as a whole in 2017. This suggests that high end technology work in motion picture and video production is (on the average) somewhere else.

*Finally, the remaining sectors (software publishers, specialized design service, computer systems design and scientific research services) in the “emerging” industries simply are still at the stage of local serving and less competitive on the national scale, as illustrated in table 10. Average pay in in scientific research and development services showed improvement between 2004 and 2010, but began to stagnate thereafter. However, relative to the nation as a whole there still exists a substantially pay scale lag (see Table 11). Annual average pay in private sector scientific research and development services in Orleans Parish are 47% of the national average in 2017. Annual average pay in computer system design are 74% of the national average in 2017. Annual average pay for software publishers in Orleans Parish is 47% of the national average, and specialized design services average pay is 63% of the national average in 2017.*

## APPENDIX

Interpreting the Location Quotient is very simple. Only three general outcomes are possible when calculating location quotients. These outcomes are as follows:

LQ < 1.0	LQ = 1.0	LQ > 1.0
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***LQ < 1.0 = All Employment is Non-Basic***

A LQ that is less than zero suggests that local employment is less than was expected for a given industry. Therefore, that industry is not even meeting local demand for a given good or service. Therefore, all of this employment is considered non-basic by definition.

***A LQ = 1.0 = All Employment is Non-Basic***

A LQ that is equal to zero suggests that the local employment is exactly sufficient to meet the local demand for a given good or service. Therefore, all of this employment is also considered non-basic because none of these goods or services are exported to non-local areas.

***A LQ > 1.0 = Some Employment is Basic***

A LQ that is greater than zero provides evidence of basic employment for a given industry. When an LQ > 1.0, the analyst concludes that local employment is greater than expected and it is therefore assumed that this "extra" employment is basic. These extra jobs then must export their goods and services to non-local areas which, by definition, makes them Basic sector employment.

***Source: Florida State University  
Department of Urban and Regional  
Planning, Planning Methods III:  
Forecasting***